Biehl

Industrial Cars
and Equipment



Catalog No.8

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Biehl

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INDUSTRIAL CARS AND EQUIPMENT



Incorporated 1916

Catalog No. 8

THE BIEHL IRON WORKS, INC.

READING, PA., U.S.A.

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BY

THE BIEHL IRON WORKS, INC.

READING, PA.

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Introductory

This catalog supersedes all previous issues. While it shows and describes only types of our regular line of Industrial Cars and Equipment, we maintain an extensive engineering department and are prepared to estimate on special requirements.

For more than sixty years we have maintained the highest standard of Quality and Service, modern methods for manufacturing being employed to reduce costs on all products consistent with high grade output.

Correspondence is solicited from all parts of the globe, as our products are adapted to meet the most unusual conditions.



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Biehl Industrial Cars and Equipment are Built for

Asbestos Factories Ash Handling Systems

Automobile Factories

Blast Furnaces

Bolt and Nut Factories

Cereal Mills

Charcoal Plants Chemical Plants

Clay-Working Plants Coal Handling Plants

Coal Mines Coal Yards

Cold Storage Plants

Contractors for Bridges Buildings

Excavating Highways Railroads

Sewers Cotton Mills

Creosoting Plants

Dairies Factories

Fertilizer Plants

Foundries-

Brass

Grey Iron Malleable Iron

Steel

Furniture Factories Gas Well Drillers Glass Factories

Ice Plants

Ice Cream Plants Japanning Plants

Leather Factories

Lime Kilns Lumber Yards

Mines— Coal

> Copper Gold

Iron Ore Nitrate

Salt Silver

Zinc

Oil Well Drillers

Paint Works
Paper Mills
Planing Mills
Plantations—

Coffee

Sugar Cane

Pressed Steel Companies

Quarries Railroads Rolling Mills Salt Factories

Sand and Gravel Companies

Soap Factories Starch Factories Steel Mills Sugar Refineries

Tanneries

Timber Companies

Tin Mills Varnish Works Vineyards Warehouses

Wholesale Groceries

Wire Mills

Zinc Manufactories



Information Desired When Requesting Estimate

To assist us in making an intelligent estimate on equipment, it is very essential that the following information accompany the request for quotation:

Kind of material Weight per cubic foot of material to be hauled How loaded—if from Bins, by Buckets, Hand or Steam Shovel How many cars in train What degree of incline or grades Power used—Locomotive, Motor, Gas, Horse, Hoist, or Man power Conditions of Dump Dimensions of Turntables Transfers Gauge of Track Size of rails Radius of Curves Distance from guard rails to track Distance from top of rail to center of drawbar Style of Car Style of Coupler Capacity of Car Loading height Height overall Width overall Length overall



Weights of Various Substances Per Cubic Foot

Pounds	Pounds
Ash34.3	Mica 183
Ashes, soft coal, packed 43	Mortar, hardened 103
Brass 511	Mud, dry, close80 to 110
Brick, best pressed	Mud. wet, pressed110 to 130
Brick, common hard 125	Mud, wet, fluid
	Naptha
Brick, soft inferior	
	Oak, live, dry 59
Cement, natural 56	Oak, white, dry
Cast iron	Oak, other species32 to 45
Cinders 45	Paper 58
Charcoal	Peat, dry
Clay, Potter's, dry 119	Petroleum54.9
Clay, in lump, loose	Pine, white, dry
Clay, moist, compact 163	Pine, yellow, Northern 38
Coal, Anthracite, broken50 to 55	Pine, yellow, Southern 45
Coal, Bituminous, solid 84	Pitch 75
Coal, Bituminous, loose48 to 52	Platinum
Coke	Quartz, common, pure 165
Coke. loose	Rosin 69
Concrete 150	Salt, coarse
Dry Fruits 45	Salt, solid
Earth, dry, rammed 93	Salt, table, fine
Earth, dry, shaken	Sandstone
Earth, dry, loose	Sand, perfectly dry, loose90 to 106
Earth, as mud	Sand, perfectly wet
Earth, as mud with gravel 126	Sand, moist, loose
Fruit	Sand, sharp
Glass	Shales, red or black
Granite	
	Silver
Gravel	Slag, furnace 53
Gypsum, Plaster of Paris 142	Slate 175
Ice57.5	Spruce, dry
Iron, Foundry cast, steel 450	Soap
Iron, wrought and steel475 to 494	Soapstone 170
Lead	Stone 178
Lime, quick, ground, loose or in	Sulphur 125
small lumps 53	Sycamore, dry 37
Limestone, ordinary, and marble. 168	Tar 62
Limestone, ordinary, and marble	Tin, cast 459
in fragments 96	Walnut, black, dry 38
Magnesium 109	Water, rain or distilled 63
Masonry Debris 90	Water, sea 64
Masonry143 to 165	Wax, bees
Mercury848.7	Zinc or Spelter

Biehl "V" Dump Cars

BIEHL "V" Dump Cars are easy to dump and make a clean and complete discharge, absolutely clear of frame and trackage.

They are constructed from the very best materials and built for service.

The bodies of Biehl cars are made of steel plate, properly reinforced. The frames are made from steel channels.

All cars are furnished with heavy cast wheels, iron or steel, as desired, the kind of bearings depending on the class of service for which the cars are to be used. The braking equipment depends also on class of service, several types of brakes being furnished.

Standard types of Biehl "V" Dump Cars are shown on pages 10 to 20 of this catalog. In addition to these standard types, we are continually building special cars to meet unordinary conditions, and invite special car construction. These cars are used by

Blast Furnaces, Chemical Plants, Coal and Ore Mines, Contractors in great variety, Creosoting trade, Ice Factories, Steel Mills, Plantations, Automobile Factories, Clay Working Plants, Coal Yards, and many other industries.

On pages 21 to 30 we show a line of various factory cars for many uses. They include

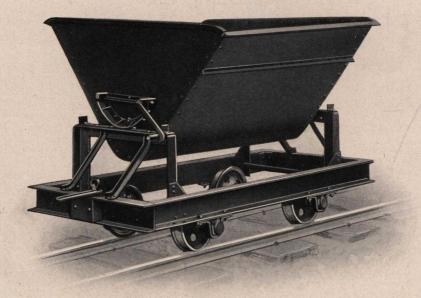
Yard Cars, Platform Cars, Push Cars, Trucks for Foundry and Warehouse work, Charging Cars, Fire Wagons, Lime Cars, Core Oven, Skip and Special Cars.

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Biehl "V" Dump Car



Biehl Figure 1 "V" Dump Car

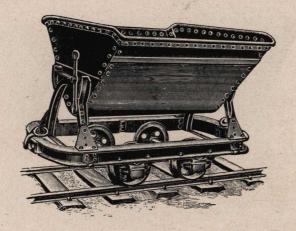
The design and construction of the Biehl "V". Dump Car is the result of many years' experience and knowledge of the particular requirements of the industrial world for a

Dump Car for general use.

It is used for conveying saturated and dry materials, such as concrete, sand, earth, slag, gravel, rock, ashes, etc. Wherever materials are to be conveyed from one place to another the Biehl "V" Dump Car will prove very economical to the user. Industrial plants of every description as well as contractors are big users of this particular Dump Car.

The Biehl "V" Dump Car is made in any size to suit the requirements of the user. When requesting estimate give information desired as per page seven of this catalog.

Side Dump Car



Biehl Figure 2 Side Dump Car

The Biehl Side Dump Car is designed especially for hauling earth, ore, coal, etc. It is very substantially constructed and has interchangeable metal sills. As cars are made to suit any gauge of track, rails of all sizes and weights are carried in stock.

No.	Capacity Cu. Ft.	Gauge of Track	No.	Capacity Cu. Ft.	Gauge of Track
147	18	Any Guage	150	42	Any Gauge
148	21	" "	151	48	" "
149	36	" "	152	54	

Prices on application.

Extra Heavy Side Dump Car



Biehl Figure 3 Extra Heavy Side Dump Car

The above illustration shows the Biehl Extra Heavy Side Dump Car; especially adapted for hauling heavy and rough material. It is made of extra heavy steel plate, properly reinforced. The frame is rectangular, durably built, and has four channel beams running lengthwise with the frame.

The dumping mechanism of this car provides very easy and convenient operation.

Prices on application.

SPECIFY BIEHL CARS AND SAVE LABOR



Industrial Car



Biehl Figure 4 Industrial Car

The Biehl Industrial Car is used extensively by contractors, foundries, stone quarries and industrial plants. Although light in construction it is very durable and will give good service.

No.	Capacity Cu. Ft.	Gauge of Track	No.	Capacity Cu. Ft.	Gauge of Track
1001	18	Any Gauge	1004	42	Any Gauge
1002	21	" "	1005	48	" Gauge
1003	36	" "	1006	54	

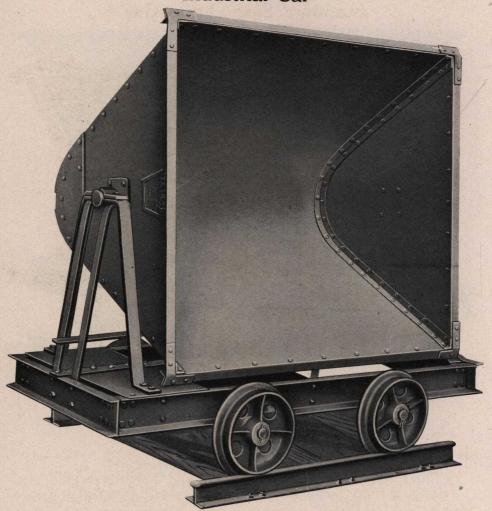
Prices on application.

BIEHL IRON



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Industrial Car



Biehl Figure 4 Industrial Car in Dumping Position

No.	Capacity Cu. Ft.	Gauge of Track	No.	Capacity Cu. Ft.	Gauge of Track
1001	18	Any Gauge	1004	42	Any Gauge
1002	21	" "	1005	48	" "
1003	36	" " "	1006	54	" "

Prices on application.

Standard Side Dump Car



Biehl Figure 5 Standard Side Dump Car

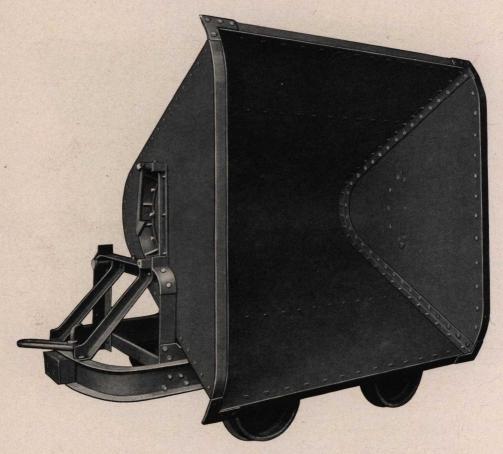
It will be seen that our Standard Side Dump Car is mounted on oval frame constructed by use of heavy channel beams. It is of the rocker dump type, and is adapted for conveying materials in solid or paste form. It is in great demand by all manner of industrial plants, contractors and quarries.

It is easily hand operated by one or two men.

Prices on application.



Standard Side Dump Car



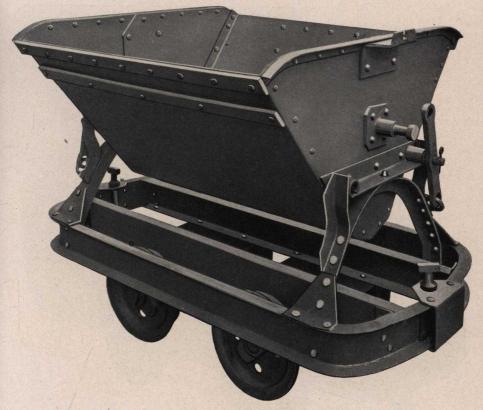
Biehl Figure 5 Standard Side Dump Car in Dumping Position

Here we show the dumping position of the Standard Side Dump Car which position demonstrates that it will completely clean itself when contents are being discharged. The load is dumped absolutely clear of frame and trackage. The upright position of this car is shown on preceding page.

Prices on application.

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Heavy Standard Side Dump Car



Biehl Figure 6 Heavy Standard Side Dump Car

The Biehl Heavy Standard Side Dump Car is strongly constructed of steel. Oval frame of heavy channel beams is used. It was designed especially for hauling heavy materials, such as coal, crushed stone, sand, ore, castings, etc., and is most used by contractors and industrial plants.

Made of any capacity to suit your requirements. Prices on application.

Heavy Standard Side Dump Car



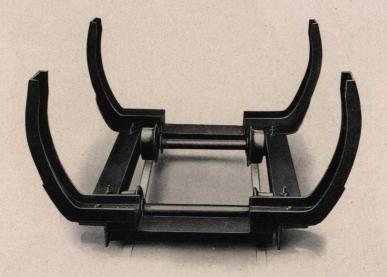
Biehl Figure 6 Heavy Standard Side Dump Car In Dumping Position

The above illustration again shows the very satisfactory dumping position of this car, as it is highly essential that a dump car absolutely cleans itself when dumped. This car is of very durable construction being reinforced throughout.

Made of any capacity to suit your requirements. Prices on application.

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Tie Creosoting Car



Biehl Figure 7 Tie Creosoting Car

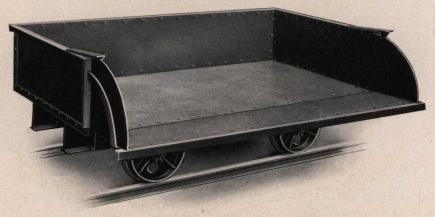
The Biehl Tie Creosoting Car is made with heavy channel yokes forming a steel cradle mounted on heavily constructed frame. It is used for creosoting railroad ties, fence posts and heavy timbers for building purposes.

Prices on application.

Charging Car



Biehl Figure 8 Charging Car-Closed



Biehl Figure 8 Charging Car-Open

The Biehl Charging Car is most used in power plants for handling coal, ashes, coke.

In large boiler rooms, it is the practice to haul coal from the bins, then to shovel direct from the charging car into fire-box.

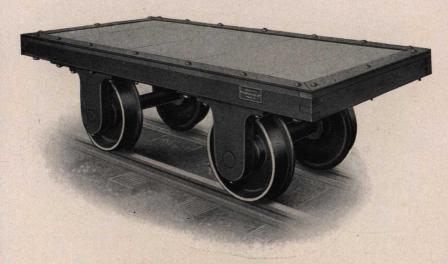
Prices on application.

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General Yard Car

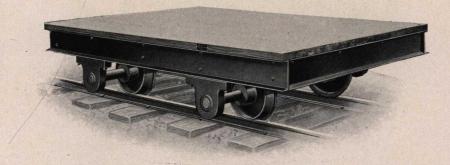


Biehl Figure 9 General Yard Car

The General Yard Car is used in industrial plants for hauling heavy castings, steel forgings, etc., to various parts of factory, and for general hauling in factory yards.

Price on application.

Platform Car



Biehl Figure 10 Platform Car

This Car is used both in factories and field work. It is very convenient for foundry and machine shop service.

Price on application.

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Push Car



Biehl Figure 11 Push Car

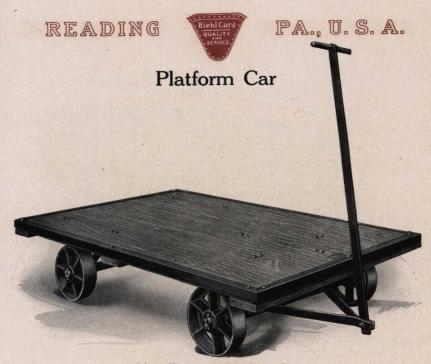
The Biehl Push Car is used by railroad companies for various purposes. It also serves as a yard car for industrial plants for hauling.



Biehl Figure 12 Steel Rod Truck

The Biehl Steel Rod Truck is used by pipe shops, planing mills and factories for hauling steel rods, piping, and lumber. Prices on application.

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Biehl Figure 13 Platform Car

This Factory Truck or Platform Car is used by warehouses, machine shops, bolt and nut plants, paper mills and printing plants.

Price on application.



Biehl Figure 14 Foundry Flat Top Truck

This truck is quite a favorite for foundry use. The top is of one-fourth inch steel plate. The wheels are flat-faced, but can be flanged for track. It is equipped with a good, strong pulling handle.

Price on application.

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Cupola Truck



Biehl Figure 15 Cupola Truck

For hauling pig iron and other materials for cupolas.

Box Truck



Biehl Figure 16 Box Truck

Wholesale houses, warehouses and stores use the Biehl Box Truck to good advantage.

Prices on application.

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Charging Car or Wagon



Biehl Figure 17 Charging Car-Closed



Biehl Figure 17 Charging Car-Open

The above Charging Car or Wagon has been designed for use in small power plants or boiler rooms for hauling coal from bin to boilers, also for removing ashes.

No.	Cu. Ft. Capacity	No.	Cu. Ft. Capacity
152	15	155	30
153	20	156	45
154	26		

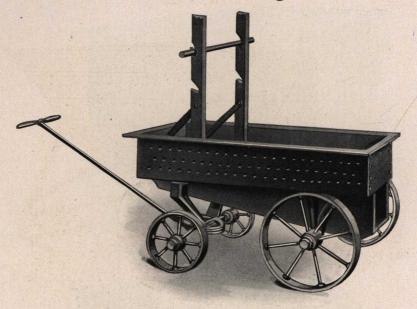
Prices on application.

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Standard Fire Wagons



Biehl Figure 18 Standard Fire Wagon

The Biehl Fire Wagon is made of the best materials very substantially constructed. The body is made of one-fourth inch tank steel and perforated, also has a $3\frac{1}{2}$ " flange at the top. It is equipped with cast grates made in 24 sections, which can be replaced easily in case of breakage. An extra strong ash pan with sloping bottom is also provided. The uprights are made of strong angle iron, notched for cross bar to hold melting pots and tools.

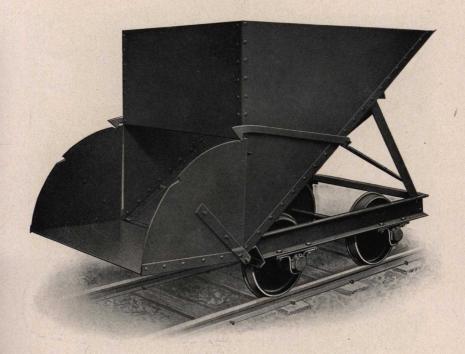
Length of Body	5' 11/4"
Width of Body	2' 61/3"
Depth of Body	1' 0"
wheels have 8 hub and are	e equipped with broad
tires.	

Prices on application.



PA., U. S. A.

Lime Car



Biehl Figure 19 Lime Car

The Biehl Lime or Hopper Car is of all steel construction, properly reinforced, mounted on heavy substantial truck. As will be noticed it is especially adapted for taking on load from lime kilns or elevated shoots. The load may be completely or only partially emptied, catch hooks being provided to retain as much of contents as desired.

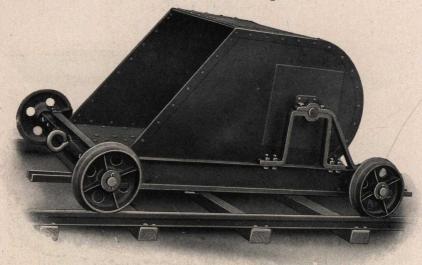
Prices on application.

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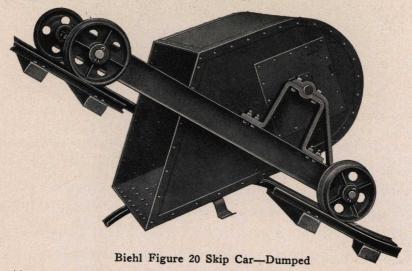


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Dumping Steel Skip Car



Biehl Figure 20 Skip Car



Above illustrations show the Biehl Steel Skip Car, designed for conveying ore and other materials. Load can be discharged automatically. It is used by blast furnaces and other industrial plants where incline work is necessary. Prices on application.



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Core Oven Car



Biehl Figure 21 Core Oven Car

The Biehl Core Oven Car is durably made and mounted on substantial truck. It can be furnished with either flanged or flat wheels. It is equipped with 28 trays. The racks are interchangeable and shelves can be raised or lowered to accommodate large or small cores.

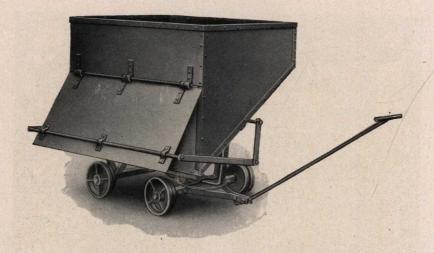
Track Gauge27"	Size of Trays2' x 3'-63/4"
Height Overall5'	Diameter of Wheels12"
Width Overall4'	Diameter of Axle2"
Length Overall8'-6"	Equipped with Roller Bearings.

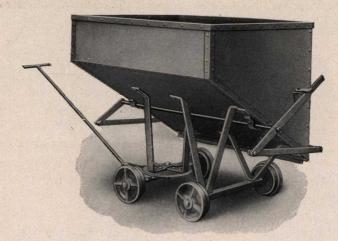
Prices on application.



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Special Cars





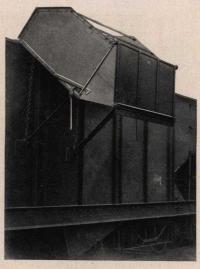
Biehl Figure 22 Special Car

The above illustrations show two views of one of the many special cars we build for various industrial purposes. Estimates will be promptly given on all special cars of any given capacity.



Improved Car Unloaders





Closed

Open

Biehl Figure 23 Car Unloaders

You can unload anything that is shoveled with these Improved Unloaders, such as crushed rock, sand, gravel, hard or soft coal. A number of our customers use them to unload grain from box cars. All that is necessary to unload box car is to spike a few timbers on inside and allow them to extend across doorway to support Unloader.

When changing Unloader, it is always best to do it with a loaded wagon. The Unloader is hooked to top edge of railroad car and must have the proper slant to discharge immediately into Dump Wagon.

No.	. Capacity in Cu. Ft.	Weight
680	21	215
681	27	285
682	41	325

Prices on application.

SPECIFY BIEHL CARS AND SAVE LABOR

Biehl Buckets

THE Biehl Line of Tubs and Buckets needs no introduction to the long list of users who have tried Biehl Buckets. But for those contemplating the use of such equipment, we show on pages 33 to 42 a few of the various types of Tubs and Buckets which have been in use for many years.

These buckets are built to endure the hardest kind of usage encountered in excavating, construction and overhead conveyance work.

They are adapted for service wherever materials are to be lifted, conveyed and dumped, and are used by

Contractors, Stevedores, Coal and Ore Mines, Cement Factories, Coal Handling Plants, Clay Working Plants, Quarries, Sand and Gravel Companies, Brick Companies, etc.

When contemplating the need for Buckets, write to our Engineering Department, stating the kind of materials to be handled and conditions under which buckets will have to operate. We can then make our recommendations to you intelligently and give you the benefit of information resulting from many years' experience.

READING



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Coal and Ore Tubs
Side Catch





Biehl Figure 24 Coal and Ore Tubs

No.	Cubic Feet Cap	Coal Cap Pounds	Weight of Tub Pounds	Gauge of Steel	Height from Floor to Mouth of Tub	Height from Floor to Top of Bail	Height from Floor to Top of Side	Length Over All	Width Over All
2 3 4 5 5B	5	250	155	10	171/2	341/2	22 23	29	29 32
4 /	8	335 400	165 250	10 10	18 20	36 38	25	31½ 34	341/2
5	10	500	280	10	22	411/2	271/2	36	36
5B	11	560	300	10	22	42	28	37	38
6 7	12	600	340	10	23	43	29	38	39
7	15	700	400	10	23	46	31	401/2	42
8.	16	800	435	10	24	48	31	421/2	43
9	18	900	450	10	241/2	481/2	32	43	44
10	20	1000	475	10	25	49	32	44	45
11	22	1120	485	10	251/2	49	32	45	46
12	24	1200	500	10	261/2	51	34 .	51	49
13	27	1350	570	10	28	55	35	52	50
15	30	1500	645	10	30	60	371/2	53	51
20	40	2000	825	10	321/2	64	401/2	56	57
22	45	2240	850	10	321/2	64	401/2	56	59

Used mostly by Stevedores and Contractors all over the country. An excellent feature of this Tub is that it has three large wheels on the bottom and one small wheel on front side, enabling the Tub to be handled easily and quickly.

Prices on application.

BIEHL IRON



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Biehl Figure 25 Coal and Ore Tub

No.	Cubic Feet Cap	Coal Cap Pounds	Weight of Tub Pounds	Gauge of Steel	Height from Floor to Mouth of Tub	Height from Floor to Top of Bail	Height from Floor to Top of Side	Length Over All	Width Over All
50 51 52 53 54 55 57 58 60 62 63 64 66 70 72	5 7 8 10 11 12 15 16 19 20 22 24 27 30 40 45	250 335 400 500 560 600 700 800 900 1120 1200 1350 1500 2000 2240	155 165 250 280 300 340 410 435 445 475 500 645 825 850	10 10 10 10 10 10 10 10 10 10 10 10 10 1	17½ 18 20 22 22 23 24 24½ 25 25½ 28 30 32½ 32½	34½ 36 38 41½ 42 43 46 48 48½ 49 51 55 60 64	22 23 25 27½ 28 29 31 31 32 32 32 34 40½ 40½ 40½	29 31½ 34 36 37 38 40½ 42½ 43 44 45 51 52 53 56	29 32 34½ 36 38 39 42 43 44 45 46 49 50 51 57 59

This Back Catch Tub is same as Coal and Ore Tub as shown on page 33, except that bail is held in position with a lever in back of Tub, whereas side catch Tub has catch on side

Buckets with double bottoms, made extra strong and heavy for stone and ore can also be furnished.

Prices on application.



Contractors' Buckets Straight Sides, Class C



Biehl Figure 26 Contractors' Buckets

No.	Coal Capacity in Pounds	Capacity in Cubic Feet	Length in Inches	Width in Inches	Depth in Inches
80 /	300	6	33	26	19
81	400	8	36	29	22
82/	500	10	41	. 30	24
83	600	12	42	33	25
84	700	14	47	33	26
85	800	16	48	35	27
86	900	18	48	37	29
87	1050	21	48	43	30
90	1350	27	52	46	31
96	1800	36	58	52	33
99	2100	42	60	56	343/4

Prices on application.



WORKS, INC.

Contractors' Buckets Class B



Biehl Figure 27 Contractors' Buckets

No.	Capacity in Cu. Ft.	Length in Inches	Width in Inches	Depth in Inches
103	6	33	29	19
105	8	35	33	19
106	10	36	34	21
107	12	38	36	
108	14	40	38	33
109	16	41	40	25
110	18	43	41	24
111	21	46	45	27
112	27	50	48	28
113	36	55	52	301/2
114	42	58	54	34 36

Prices on application.



Contractors' Buckets Class A



Biehl Figure 28 Contractors' Buckets

The Biehl Class A Contractors' Buckets are made with flaring sides, all corners being well rounded. These buckets are made extra strong throughout.

No.	Capacity in Cu. Ft.	Length in Inches	Width in Inches	Depth in Inches
115	6	30	33	18
116	8	30 33 36 38	36	20
117	10	36	41	21½ 23 25 26
118	12		44	23
/ 119	14	40	46	25
120	16	41	47	26
121	18	43	47	27
121 122 123	21 27	43 45	48 53	28
123	27	49	53	31
124	36	49 57	65	33
125	42	59	66	341/2

Prices on application.



WORKS, INC.

Round Bucket



Biehl Figure 29 Round Bucket

The Biehl Round Bucket is used for mining, digging trenches and deep caisson work. It is very durably made, the bottom being of heavier material than the sides. Its uses are unlimited.

No.	Capacity in Cu. Ft.			Depth of Bucket in Inches	Weight of Bucket	
130	6	31	33	19	150	
131	8	33	36	21	175	
132	11	39	42	22	220	
133	14	44	49	25	285	
134	17	461/2	51	261/2	320	
135	21	48	56	301/2	416	
136	. 27	501/2	60	331/2	500	
137	42	581/2	71	40	750	

Prices on application.

Controllable Two Door Bottom Dump Bucket





Closed Full Opening
Biehl Figure 30 Controllable Two Door Bottom Dump Bucket

The Biehl Controllable Two-Door Bottom Dump Bucket is controlled by one lever as illustrated, and is adapted to slow, gradual dumping, as when spreading concrete in layers, dumping into narrow forms, etc.

The operator can control the lever with one hand, and steady bucket with the other, and at the same time is permitted to see where and how he is

The bucket will not swing around. After the operator raises the latch, the load pressing on the doors slowly moves the operating lever without any effort on the part of the man operating it. All that is required of the operator is to raise and lower the latch into the different notches in the quadrant.

The doors are strongly braced on all sides, and when opening, hug the two

The doors are strongly braced on all sides, and when opening, hug the two sides of the Bucket closely so that no material can escape from the back sides, but is directed towards the centre. The same conditions prevail when closing, and all possible clinging substance is scraped off allowing the doors to pull up tightly with the bottom of the Bucket.

No.	Capacity in Cu. Ft.	Length of Top	Width Over All	Depth	Height Over All	Approximate Weight
805	14	32	38	38	46	580 lbs.
806	21	36	40	44	52	790 lbs.
807	27	38	44	46	54	950 lbs.
808	42	44	48	54	62	1200 lbs.

Prices on application.



WORKS, INC.

Bottom Dump Bucket



Biehl Figure 31 Bottom Dump Bucket

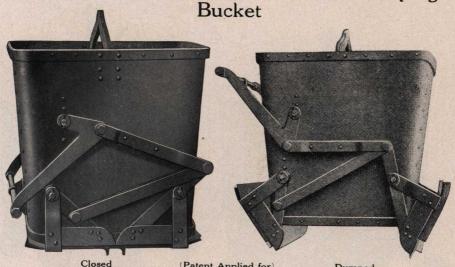
The Biehl Bottom Dumping Bucket is the strongest bucket on the market, made for contractors who require a good, strong, serviceable bottom dump bucket that will stand all kinds of hard work and usage.

No.	Cubic Yards Capacity	Average Weight		
140				
	1/2 -	550 lbs.		
141	3/4	650 lbs.		
142	1	700 lbs.		
143	11/2	900 lbs.		
144	2	1350 lbs.		
145	21/2	1700 lbs.		
146	3			
1400	•	2000 lbs.		

Prices on application.



Quick Acting Double Door Bottom Dumping



Closed (Patent Applied for) Dumped
Biehl Figure 32 Quick Acting Double Door Bottom Dump

The Biehl Quick Acting Double Door Bottom Dump Bucket is made for general use, to handle all kinds of materials. For clean dumping and quick acting it cannot be excelled. The lever mechanism is simple, yet amply secure. The levers are so designed that the load in the bucket holds the doors in place. An extra safety catch is provided and placed at the most convenient position possible, being attached to the operating rod. The operator loses no time in loosening the catches before being able to open the doors. The doors are made of heavier material than the bucket and are braced in best possible manner.

For dumping under water or in deep caissons it can be used to great advantage, as a pull from any angle by a tag line attached to the catch opens the doors.

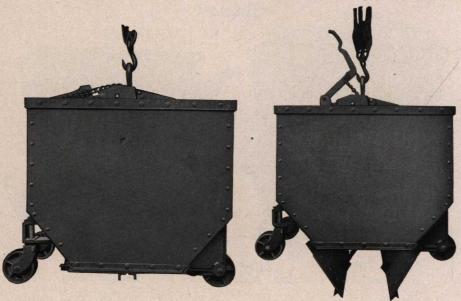
No.	Sizes in Cu. Ft.	Length at Top in Inches	Width in Inches	Height in Inches	Approximate Weight
812	14	34	28	32	615
813	21	38	32	40	800
814	27	42	36	42	950
815	42	48	38	48	1175

Prices on application.

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Overhead Monorail Bottom Dumping Bucket



Closed Dumped Biehl Figure 33 Overhead Monorail Bottom Dumping Bucket

The above bucket is used for handling coal and ashes where space does not allow use of regular turn-over buckets.

The doors are released and raised by chain and lever. The load is very easily dumped and contents flow clean of sides.

No.	Cubic Feet Capacity	Coal Capacity in Pounds
700	10	500
701	14	700
702	22	
703	30	1120
704	44	1500 2240

Prices on application.



Contractors' Equipment

On the following pages a great variety of equipment as used by Contractors is illustrated.

The uses for which each product is intended is clearly specified, although there are many other lines of industry for which these special labor saving essentials are adapted.

The Biehl Line, as illustrated, includes

Skips, Concrete Carts, Charging Barrows, Coaling Barrows for Overhead work, Coal and Smelter Barrows, Portable Tar and Asphalt Heaters, Tar Melting Furnaces, Tar Kettles on Wheels, Portable Furnaces, Pouring Kettles, Roofers' Dippers, Salamanders and Builders' Stoves, Lead Melting Furnaces on Wheels, Foundry Ladles, etc.



WORKS, INC.

Heavy Skips



Biehl Figure 34 Heavy Skips

The Biehl Heavy Skip as above illustrated is used for Railroad construc-

tion, contract and quarry work.

It is made of tank steel, strongly reinforced.

The Skip is provided with heavy substantial lifting rings and best grade of hand made chains.

No.	Capacity in Cubic Yards	Size	Thickness of Plates in Inches	
166	1/2	4' x 3'-6" x 12"	340	
167	3/4	4'-6" x 4'-6" x 12"	3/16 3/16	
168	1	5'-0" x 4'-9" x 14"		
169	11/4	5'-0" x 5'-0" x 16"	1/4	
170	1½	5'-0" x 5'-0" x 18"	1/4	
171	13/4	5'-6" x 5'-6" x 18"	1/4 1/4 1/4 1/4 1/4	
172	2	6'-0" x 6'-0" x 18"	1/4	
173	3	6'-6" x 6'-6" x 24"	1/4	
174	4	7'-0" x 7'-0" x 24"	3/6	
175	5	8'-0" x 8'-0" x 24"	7/4 3/8 3/8	

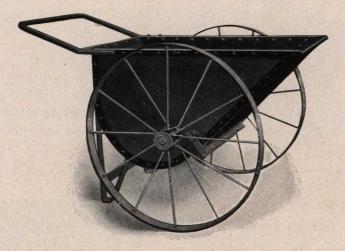
Prices on application.

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"Neversink" Concrete Carts

Types A and B



Biehl Figure 35 Concrete Cart

With a "Neversink" Concrete Cart one man can push or pull three to six times the ordinary wheelbarrow load. The axle is fastened to the body with two pieces of heavy angle iron and is bent up along the sides and further fastened by two double straps, thereby stiffening the sides and bottom.

No.	Feet Cap'y	Gauge of Body	Diam. of Wheel	Height Over All	Width Over All	Length Over All	Average Weight
600	5	14	30"	30"	33"	49"	150
601	6	14	30"	34"	38"	50"	175
601B	6	14	36"	37"	38"	50"	200

Prices on application.

"Neversink" Concrete Carts Type C



Biehl Figure 36 Concrete Cart

The axle of Type C Concrete Cart is fastened to the sides of the cart by pressed steel clips and is further supported by strong wrought iron straps running along the sides and continuing on to the handle. These straps stiffen the sides and give the axle a strong bearing surface. The body is well made and is practically grout tight.

Type D

Type D Concrete Cart has axle securely fastened to underside of body. Angle iron molding stiffens the sides and a flat band of iron protects the lip in dumping. The two legs are slightly raised to give a wide clearance from the ground when in motion.



Biehl Figure 37 Concrete Cart

	Biem Figure 37 Concrete Cart			
Type	C	D		
Number	602	603		
Capacity	6	5		
Length of Body	361/2"	36"		
width	20"	20"		
Depth	20"	16"		
Height Over All	32"	32"		
Width Over All	36"	32"		
Length Over All	54"			
Wheel Diameter		49"		
Fauge of Rody	42"			
Gauge of Body	14	14		
Average Weight	240	150		

Prices on application.

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Charging Barrow



Biehl Figure 38 Charging Barrow

The Biehl Charging Barrow is used for charging cupolas in foundries, blast furnaces and gas works. It is constructed so that load is well balanced over wheels. With the Barrow, one man can haul in a single load as much as he could haul in six loads with a common barrow.

It is strong and substantially built.

Regular sizes: No. 204 10 cu. ft.—No. 205 131/2 cu. ft.

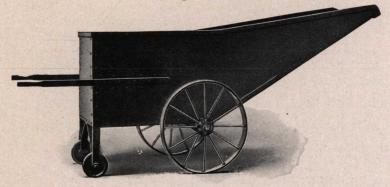
Prices on application.

Locomotive Overhead Coaling Barrows Short Billed



Biehl Figure 39 Locomotive Overhead Coaling Barrow

Long Billed



Biehl Figure 40 Locomotive Overhead Coaling Barrow

The body of these barrows is made of No. 10 and No. 8 gauge steel, joined at corners with heavy angle iron. Length of body 63 inches, width 36 inches and 30 inches deep. Wheels 32 inches diameter, $2\frac{1}{4}$ inches square axle.

Prices on application.



Two-Wheel Coal or Smelter Barrow



Biehl Figure 41 Two Wheel Coal or Smelter Barrow

The above illustration shows our coal and ore barrow. This barrow is the neatest and most durable made, and will outlast a number of ordinary barrows. The pipe handles are fastened to the tray by two double clamps and are double riveted to the front end of tray. The capacity is 8 cubic feet level full.

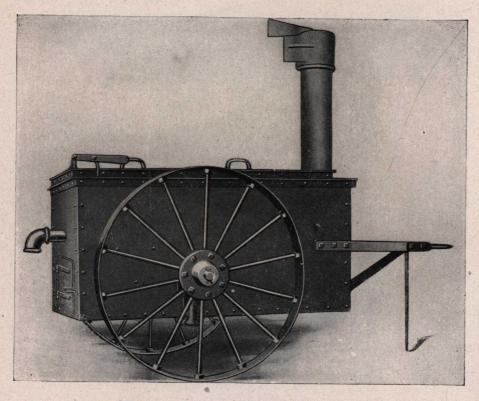
G	auge Ste	eel in T	ray	Size	of Tray						
No.	Bottom and Front	Sides	Top Length	Top Width at Back	Top Width at Front	Greatest Depth	Size of Handles	Size of Axles	Size of Leg	Size of Leg Bres.	Approximate Weight
604	No. 10	No. 12	44 in.	32½ in.	39½ in.	16½ in	1 in. pipe	1½ in.	3/8 x1 ¹ / ₄ inch	1/4 x1 1/4 inch	260 lbs.

A heavier style barrow is made identical to the above for handling extra heavy materials, as follows:

C	Sauge St	eel in T	ray	Size o	of Tray						
No.	Bottom and Front	Sides	Top Length	Top Width at Back	Top Width at Front	Greatest Depth	Size of Handles	Size of Axles	Size of Leg	Size of Leg Brcs.	Approximate Weight
605	3/16 in.	No. 10	44 in.	32½ in.	39½ in.	16½ in.	1¼ in. pipe	1½ in.	1/2 x1 1/2 inch	11/4 x 1/2 inch	360 lbs.

Wheels 20" diameter, 2" face. On the heavier style an extra tire $2\frac{1}{4} \times \frac{3}{8}$ is shrunk on.

Portable Tar and Asphalt Heater Type S-2

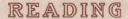


Biehl Figure 42 Portable Tar and Asphalt Heater

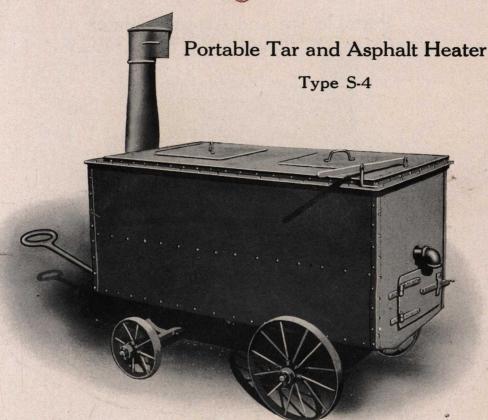
These kettles are made of No. 12 gauge steel plate with an extra plate riveted inside full length to resist the heat and prevent burning out.

The draw-off valve can be placed at either end as desired. A canopy stack is furnished with each kettle.

Prices on application.







Biehl Figure 43 Portable Tar and Asphalt Heater

The above illustration shows our 250 Gallon Tar Heater one of several sizes made. Substantial construction is apparent in every detail of these heaters. Especially is this the case in building the bottom and sides. The sides are reinforced with extra heavy gauge plates running the entire length of heater. The bottom consists of heavy 3" angles running the length of the body from which the axles are supported by heavy bracing, especially the rear axle which is supported its entire length. The fifth wheel is joined to the body and axle in the strongest possible manner. The draw-off valve can be classed at either and placed at either end.

Each heater is equipped with canopy stack with revolving top and with the

style handle as shown unless other style is desired.

Dimensions of	250 Gal	lon Capacity	Heater
 88	inches	Height from	ground t

Length	00	menes	rieight from ground to top		
Width	40	inches	of body	56	inches
Depth	36	inches	Wheel base	50	inches
Width over all	57	inches	Grate area	9	sq. ft.
M			100 100 11		

This Heater is made in capacities from 100 to 400 gallons.

Prices on application.

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Portable Tar and Asphalt Heater Type E-5



Biehl Figure 44 Portable Tar and Asphalt Heater

The above illustration shows the elliptical style of tar heater which is generally made to hold 100 Gallons. The sides of body are made of No. 8 Gauge and the bottom of ¼ plate. A piece of heavy angle iron is fastened along the top upon which the tank is fastened. The tank is constructed of the same gauge plate as the body and is fastened to same by a piece of heavy angle iron riveted along the outside 6 inches from the top. General dimensions of tank—Length, 38 inches; Width, 26½ inches; Depth, 28 inches. The top of tank is covered with a neatly shaped plate divided and hinged in the middle.

The heater is provided with fire door and has an opening of 8½" x 14". In the front, at the top, a 6-inch galvanized pipe and elbow are securely fastened to the kettle by a 2½-inch flange. The axle is of 1¾" square iron fastened to bottom and sides of heater.

The 1½-inch draw off cock extends some distance from side of kettle and does not interfere with the fire door or tire of wheel. This draw off cock can be placed at opposite end of fire door if so desired.

free door if so desired.

These heaters are intended for wood burning but can be equipped with grates and a suitable cast iron bottom for tank at a slight additional cost if so desired. Prices on application.

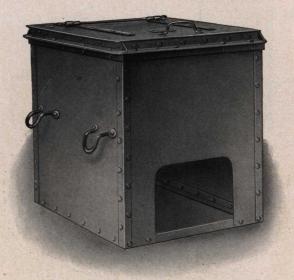
Size	Length	Width	Depth	Dia. Wheels
100 Gal.	44"	33	30	42

No. 511 With Grates.

No. 512 Without Grates.



Tar Melting Furnace



Biehl Figure 45 Tar Melting Furnace

The above illustration shows one style of Biehl tar heating kettles.

This style kettle can be made in any shape and of any capacity.

No.	Capacity in Gallons
513	.30
514	50
515	100
516	150

Prices on application.

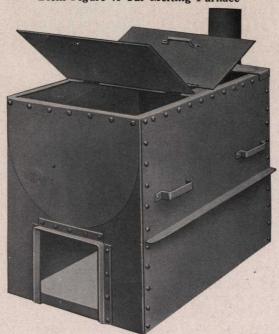


WORKS, INC.

Tar Melting Furnace



Biehl Figure 46 Tar Melting Furnace



Biehl Figure 47 Tar Melting Furnace

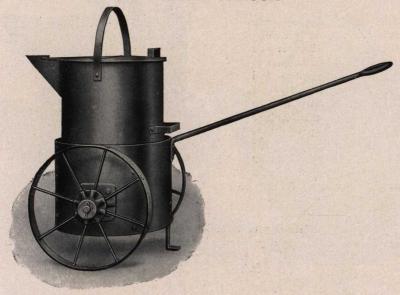
The above illustrations represent additional styles of tar heating kettles manufactured by us.

Inquiries regarding prices should give dimensions wanted to suit requirements. Prices on application.

SPECIFY BIEHL CARS AND SAVE LABOR



Combination Melting and Pouring Tar Kettles on Wheels



Biehl Figure 48 Combination Melting and Pouring Tar Kettles on Wheels

The above illustration represents an invaluable aid to road builders and those keeping road beds in condition. The heavy iron cylinder shown on page 56 is equipped with a heavy cast iron grate and is mounted on two 16" diameter wheels. A strong handle is provided, making it easily portable from place to place. The kettle proper is removable and is mounted some distance above grate, leaving an ample fire place. The ten gallon size is the most popular one in demand.

No.	Capacity
517	5 Gallon
518	8 Gallon
519	10 Gallon

Prices on application.



WORKS, INC.

Melting and Pouring Kettle

The Biehl melting and pouring kettle is provided with portable outfit shown on page 55. The bottom is of No. 16 gauge plate and sides of No. 18. All seams are rolled, positively no solder being used. The square spout is partly covered to prevent a large stream in pouring. The top of kettle is divided and hinged in middle.



Biehl Figure 49 Melting and Pouring Kettle

No.	Size in Gallons	Diameter in Inches
520	5	10
520 521 522	8	14
522	10	14½



Biehl Figure 50 Portable Furnace



Pouring Kettles



Biehl Figure 51



Biehl Figure 52



Biehl Figure 53

Roofers' Dipper

Biehl Pouring Kettles can be made in any size required.

Prices on application.

SPECIFY BIEHL CARS AND SAVE LABOR



WORKS, INC.

Salamanders or Builders' Stoves

Biehl Figure 54

No. 525 Plain Salamander Without Ash Pan 17" Dia. 20" high



Biehl Figure 55

No. 527 Salamander With Pipe Connection and Closed Top. 17" Dia. 20" high



No. 526 Salamander With Ash Pan 17" Dia. 20" high



Biehl Figure 54



Biehl Figure 56

Biehl Salamanders can be furnished as desired. They are used for drying buildings and burning refuse by contractors, etc.

Prices on application.



Biehl Figure 57

Salamanders or Builders' Stoves

No. 530

No. 530 is made larger and heavier than Salamander No. 526. It has stiffening band around top and bottom. Size of Salamander is 20" dia. 24" high.

Builders' Stoves No. 531

This stove is 18" in dia. and 42" high, is made of 36 steel plate and equipped with heavy cast iron grate; has fire and ash doors in front. The bottom is tight so that ashes or fire cannot drop out, and top of stove has stove pipe connection.

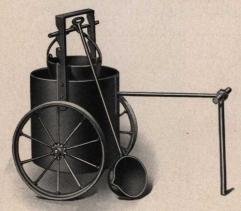
This is a good stove for any building where perfect safety is required and fully complies with insurance rules.



Biehl Figure 58 .



Lead Melting Furnaces on Wheels



The Biehl Melting Furnace is made from boiler plate, the wheels being fitted with wrought rims and wrought iron spokes.

No. 7—18" is equipped with No. 3 Pot No. 8—24" is equipped with No. 4 Pot No. 9—30" is equipped with No. 5 Pot

Biehl Figure 59

Lead Melting Furnaces on Legs

No. 0—18" is equipped with No. 3 Pot No. 1—24" is equipped with No. 4 Pot No. 2—30" is equipped with No. 5 Pot

Heavy Cast Iron Pots

		the state of the s	
No.	Dia. of Pot in Inches	Depth of Pot in Inches	Capacity of Pot
3	13½	71/2	200 lbs.
4	15	11	450 lbs.
5	18	14	850 lbs.



Biehl Figure 60

Pressed Steel Pouring Bowls

No. 6-Capacity, 125 lbs.

Heavy Cast Iron Grates

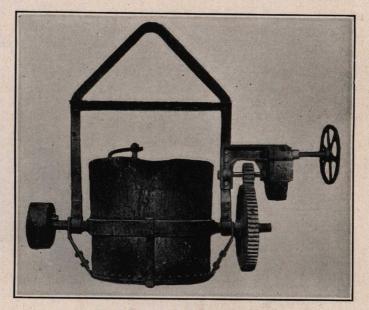
No. 7½ For 18" Furnace. No. 8½ For 24" Furnace. No. 9½ For 30" Furnace.

Heavy Pressed Steel Ladles

No.	Diameter in Inches	Capacity in Pounds		
1	6	15		
2	8	26		
3	9	42		
4	10	58		

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Foundry Ladle



Biehl Figure 61 Foundry Ladle

The Biehl Foundry Ladle is adapted for use in all Grey iron and brass foundries, as well as Blast Furnaces, or wherever molten metal is to be conveyed.



WORKS, INC.

U. S. Standard Gauge

No. of	Thickness	s in Inches	Weight S	Weight Square Foot			
Gauge	Fractions	Decimals	Iron	Steel			
7-0's	1-2	.5	20.00	20.4			
6-0's	15-32	.46875	18.75	19.125			
5-0's	7-16	.4375	17.50	17.85			
0000	13-32	.40625	16.25	16.575			
000	3-8	.375	15.	15.30			
CO	11-32	.34375	13.75	14.025			
0	5-16	.3125	12.50	12.75			
1	9-32	.28125	11.25	11.475			
2	17-64	.265625	10.625	10.8375			
3	1-4	.25	10.	10.2			
4 5	15-64	.234375	9.375	9.5625			
5	7-32	.21875	8.75	8.925			
6	13-64	.203125	8.125	8.2875			
7	3-16	.1875	7.5	7.65			
8 9	11-64	.171875	6.875	7.0125			
	5-32	.15625	6.25	6.375			
10	9-64	.140625	5.625	5.7375			
11	1-8	.125	5.	5.1			
12	7-64	.109375	4.375	4.4625			
13	3-32	.09375	3.75	3.825			
14	5-64	.078125	3.125	3.1875			
15	9-128	.0703125	2.8125	2.86875			
16	1-16	.0625	2.5	2.55			
17	9-160	.05625	2.25	2.295			
18	1-20	.05	2.	2.04			
19	7-160	.04375	1.75	1.785			
20	3-80	.0375	1.50	1.53			
21	11-320	.034375	1.375	1.4025			
22	1-32	.03125	1.25	1.275			
23	9-320	.028125	1.125	1.1475			
24	1-40	.025	1.	1.02			
25	7-320	.021875	.865	.8925			
26	3-160	.01875	.75	.765			
27	11-640	.0171875	.6875	.70125			
28	1-64	.015625	.625	.6375			
29	9-640	.0140625	.5625	.57375			
30	1-80	.0125	.5	.51			

